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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,934	02/02/2004	Manas Kumar Behera	200311799-1	8516

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FORT COLLINS, CO 80527-2400

EXAMINER

TAYLOR, NICHOLAS R

ART UNIT	PAPER NUMBER
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2141

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/768,934

Applicant(s)

BEHERA ET AL.

Examiner

Nicholas R. Taylor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 have been examined and are rejected.

Claim Objections

2. Claim 11 is objected to because of the following minor informality: the claim ends in a comma.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5-14, 16-19, and 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Beaudoin, et al. (U.S. PGPub 2003/0112958).

5. As per claims 1 and 18, Beaudoin teaches a method for managing a network using a plurality of databases, the method comprising:

selecting a first one of the plurality of databases that contains a topology of the network, as an active database that is accessible; (Beaudoin, paragraphs 0027, 0028,

fig. 4's structure, and paragraph 0032, where the topology data is described, e.g., in paragraph 0027-0029 and is shown, e.g., in figs. 2-6)

selecting a second one of the plurality of databases that contains a topology of the network, as a working database for receiving topology updates; (Beaudoin, paragraphs 0028, 0030, and 0032 using the structure of fig. 4)

discovering a topology of the network, and updating the second database with the discovered topology; and selecting the second database as the active database (Beaudoin, paragraphs 0028, 0032, and 0033, where the system selects the second database as active).

6. As per claim 2, Beaudoin teaches the system further wherein before discovering the topology of the network, the active database and the working database contain identical topologies of the network (Beaudoin, paragraphs 0027-0029 and 0032).

7. As per claims 3 and 19, Beaudoin teaches the system further comprising: selecting the first database as the working database; discovering a topology of the network, and updating the first database with the discovered topology; and selecting the first database as the active database (Beaudoin, paragraphs 0027, 0028, fig. 4's structure, and paragraph 0032).

8. As per claims 5 and 21, Beaudoin teaches the system further comprising: monitoring a health of the network during the discovering based on the network

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topology in the active database (Beaudoin, paragraph 0035, 0044, and 0051 where the health and other network statistics are monitored).

9. As per claim 6, Beaudoin teaches the system further wherein the discovering returns a connectivity of the network (Beaudoin, paragraph 0035).

10. As per claim 7, Beaudoin teaches the system further wherein the discovering returns a Layer 2 connectivity of the network (Beaudoin, paragraph 0035).

11. As per claim 8, Beaudoin teaches the system further comprising:
detecting a fault in the network; comparing the topologies in the working and active databases; determining a source of the fault based on the comparing (Beaudoin, e.g., in paragraphs 0035, 0044, 0045, where topology comparisons are utilized).

12. As per claims 9 and 22, Beaudoin teaches a method for managing a network using a plurality of databases, the method comprising:

discovering the network; updating a topology representation of the network in a working database based on the discovering; (Beaudoin, paragraphs 0027-0029 and fig. 4, where the network topology representation is created or updated)

simultaneous with the discovering and the updating, providing access to a topology representation of the network in an active database; and (Beaudoin,

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paragraphs 0027, 0028, fig. 4's structure, and paragraph 0032, where the topology data is described, e.g., in paragraph 0027-0029 and is shown, e.g., in figs. 2-6)

exchanging connections of the working and active databases (Beaudoin, paragraphs 0028, 0032, and 0033, where the system selects the second database as active).

13. As per claims 10 and 23, Beaudoin teaches the system further comprising: repeating the discovering, updating, providing, and exchanging (Beaudoin, paragraphs 0027-0029, where the processes are all repeated).

14. As per claim 11, Beaudoin teaches the system further wherein the exchanging is performed upon completion of the discovering of the network and updating the topology representation (Beaudoin, paragraphs 0028, 0032, and 0033, where the system selects the second database as active).

15. As per claim 12, Beaudoin teaches the system further comprising partitioning a topology database to form the working database and the active database (Beaudoin, paragraphs 0030 and 0032, e.g., where the data is partitioned into "sets" when forming the databases).

16. As per claim 13, Beaudoin teaches a system for managing a network using a plurality of databases, the system comprising:

means for discovering a topology of the network and updating a topology of the network in a database connected to the means for discovering; (Beaudoin, paragraphs 0027, 0028, fig. 4's structure, and paragraph 0032, where the topology data is described, e.g., in paragraph 0027-0029 and is shown, e.g., in figs. 2-6)

means for connecting the means for discovering to a first database while at the same time connecting clients to a second database containing a topology of the network, and (Beaudoin, paragraphs 0028, 0030, and 0032 using the structure of fig. 4)

for connecting the clients to the first database after the means for discovering updates the topology of the network (Beaudoin, paragraphs 0027, 0028, 0032, and 0033, and fig. 1, where the clients access the first database).

17. As per claim 14, Beaudoin teaches the system further wherein the means for connecting exchanges connections of the first and second databases among the means for discovering and the clients after the means for discovering completes discovery of the network (Beaudoin, paragraphs 0028, 0032, and 0033, where the system selects the second database as active after determining network layout 3 of fig. 1).

18. As per claim 16, Beaudoin teaches the system further comprising means for monitoring a health of the network based on the network topology in the second database (Beaudoin, paragraph 0035, 0044, and 0051 where the health and other network statistics are monitored).

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19. As per claim 17, Beaudoin teaches the system further comprising means for detecting a fault in the network, comparing the topologies in the first and second databases, and determining a source of the fault based on the comparing (Beaudoin, e.g., in paragraphs 0035, 0044, 0045, where topology comparisons are utilized).

20. As per claim 24, Beaudoin teaches a method for managing a network using a plurality of databases, the method comprising:

connecting a first one of the plurality of databases that contains a topology of the network, as an active database accessible by clients; connecting a second one of the plurality of databases that contains a topology of the network, as a working database for receiving topology updates; (Beaudoin, paragraphs 0028, 0030, and 0032 using the structure of fig. 4)

discovering a topology of the network, and updating the working database with the discovered topology; (Beaudoin, paragraphs 0027, 0028, fig. 4's structure, and paragraph 0032, where the topology data is described, e.g., in paragraph 0027-0029 and is shown, e.g., in figs. 2-6)

connecting the working database as the active database; and connecting one of the plurality of databases as the working database, wherein the database connected as the active database and the database connected as the working database are different databases (Beaudoin, paragraphs 0028, 0032, and 0033, where the system selects the second database as active and all databases are different).

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21. As per claim 25, Beaudoin teaches the system further comprising: repeating the discovering of the network and the updating of the working database, the connecting of the working database as the active database, and the connecting of one of the plurality of databases as the working database (Beaudoin, paragraphs 0027-0029, where the processes are all repeated).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 4, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beaudoin, et al. (U.S. PGPub 2003/0112958) and Galand, et al. (U.S. Patent 6,038,212).

24. As per claims 4 and 20, Beaudoin teaches the above, including moving between working and active databases (Beaudoin, paragraphs 0028-0035), yet fails to teach the system further comprising: selecting a third one of the plurality of databases as the working database; discovering a topology of the network, and updating the third database with the discovered topology; and selecting the third database as the active database.

Galand teaches a method of using a large number of topology databases in a data communications network to enable topology mapping and network management (Galand, see fig. 5 topology database structure, col. 9, lines 9-28, and col. 10, line 33 to col. 11, line 4).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Beaudoin and Galand to provide the database techniques of Galand in the system of Beaudoin, because doing so would enable improved performance through minimizing the processing time necessary to update a small number of topology databases (Galand, col. 2, lines 45-53). One of ordinary skill in the art would further be motivated to use the techniques taught in Galand to increase the fault-tolerance and network stability by large plurality of topology database storage alternatives (see Galand, col. 5, lines 8-11).

25. As per claim 15, Beaudoin teaches the above, including moving between working and active databases (Beaudoin, paragraphs 0028-0035), yet fails to teach the system further wherein after the means for discovering completes discovery of the network, the means for connecting reconnects the clients from the second database to the first database and connects the means for discovering to a third database.

Galand teaches a method of using a large number of topology databases in a data communications network to enable topology mapping and network management (Galand, see fig. 5 topology database structure, col. 9, lines 9-28, and col. 10, line 33 to col. 11, line 4).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Beaudoin and Galand to provide the database techniques of Galand in the system of Beaudoin, because doing so would enable improved performance through minimizing the processing time necessary to update a small number of topology databases (Galand, col. 2, lines 45-53). One of ordinary skill in the art would further be motivated to use the techniques taught in Galand to increase the fault-tolerance and network stability by large plurality of topology database storage alternatives (see Galand, col. 5, lines 8-11).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes:

U.S. Patent No. 6,574,663, which describes a technique for operating a network using multiple databases with topological information using active discovery;

U.S. Patent No. 7,185,075, which describes a method of maintaining concurrency in a network element database and determining topology using network discovery; and

U.S. PGPub 2004/0098474, which describes a method of network element management with a graphical user interface for large-scale networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Taylor whose telephone number is (571) 272-

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3889. The examiner can normally be reached on Monday-Friday, 8:00am to 5:30pm, with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharja can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT 8-23-07

Nicholas Taylor
Examiner
Art Unit 2141


JASON CARDONE
SUPERVISORY PATENT EXAMINER